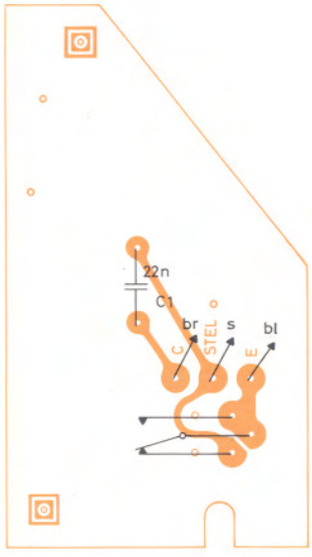
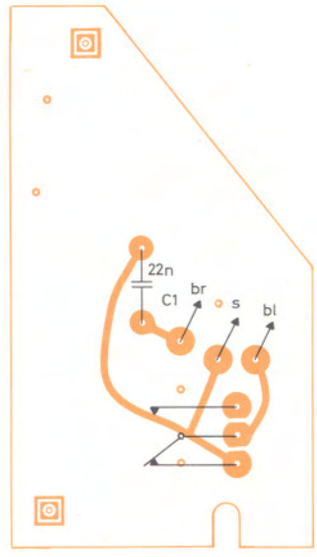


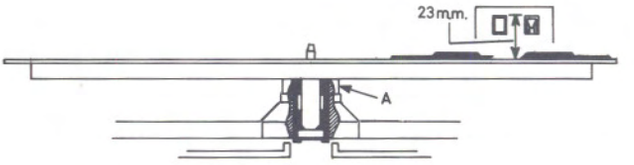


10 PC 8009028

C			C		
C1	4130096	22 nF 10% 400 V	C 1	4130096	22 nF 10% 400 V
	7400115	Microswitch for 6140418		7402081	Microswitch for 6140419

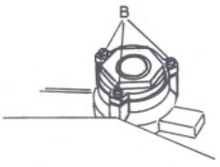
MECHANICAL ADJUSTMENT

Height Adjustment of Turntable



Loosen nut A at turntable bearing and adjust the height of the bearing so that the spacing between the turntable and detector arm is 23 mm.

Tighten nut A lightly.



Vertical Adjustment of Turntable Bearing

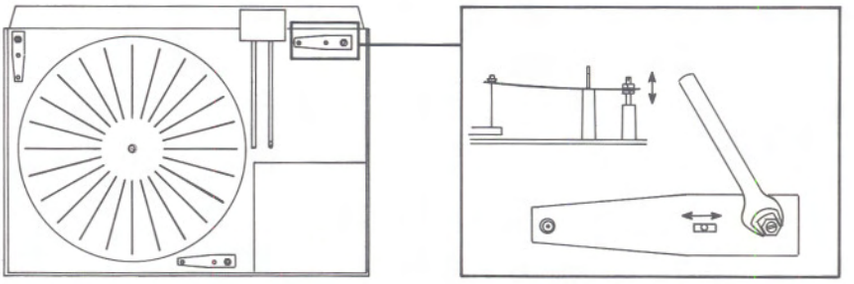
Turn transit screws to lock the floating chassis.

With screws B, adjust turntable bearing to the perpendicular to the chassis - in other words, the surface of the turntable must be paraellel with the cover plate.

Check height adjustment (23 mm), both near the rim and near centre of the turntable.

Height and Side Adjustment of Chassis

Loosen transit screws so that chassis floats freely.

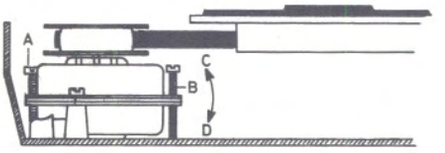


By means of the suspension springs adjust the chassis so that turntable is flush with the cover plate and so that the chassis in placed in middle of the transit screws.

Moreover slide the springs backwards or forwards so that the turntable is located in the centre of the hole in the cover plate.

To make the adjustment, first loosen the top nuts and thereafter adjust the screw to the disired height and slide the springs to the disered position. Lastly, tighten the nuts.

Adjustment of Belt Drive



The drive motor should be adjusted so that the belt runs in the middle of the pulley and the belt face on the turntable.

If it is desired to have the belt farther down on the pulley, loosen screw A and tighten screw B, causing the motor to tilt in the direction of arrow C.

If it is desired to have the belt farther up on the pulley, loosen screw B and tighten screw A, causing the motor to tilt in the direction of arrow D.

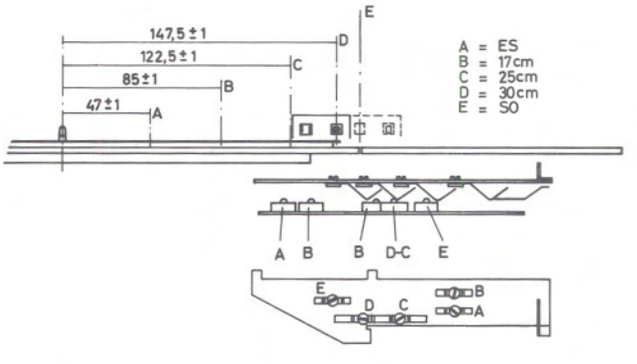
On completion of the adjustment tigtten the loose screw. Thereafter check the adjustment.

NOTE: The belt should be fitted with its ground (rough) side facing the pulley and belt face.

Adjustment of Slide Contact Springs Height

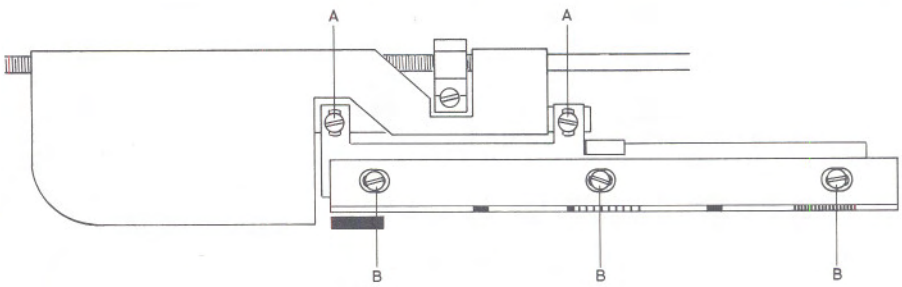
Adjust all contact springs so that they only just actuate the contacts but also so that they do not jam with the contact pins, thus blocking the slide transport.

Placement



The horizontal placement of the springs should be made so that they will actuate their respective contacts during slide transport when the pickup is spaced from the middle of the centre pin by the amount stated on the sketch.

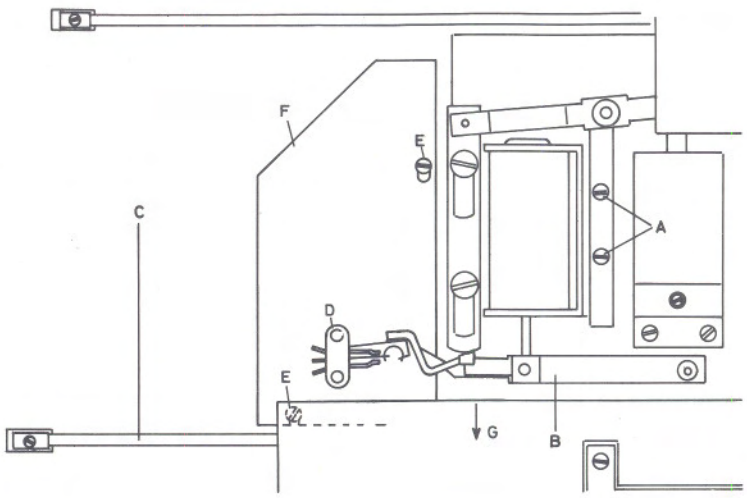
To make the adjustment, loosen the srew holding the spring in question and slide it in the oblong hole.



Adjustment of Position Marker

With the screws A loosened, the position marker bracket can be adjusted so that it runs parallel with the photoresistor housing.

With the screws B loosened, slide the position generator backwards or forwards until the arm lowers onto a 30 cm disc at a distance of between 146.5 mm and 148.25 mm from the centre of the disc.



Adjustment of Solenoid System

Solenoid.

Loosen screws A.

Slide solenoid to the place where arm B is parallel with rod C when solenoid armatur is pulled home.

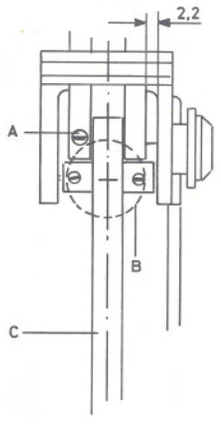
Tighten screws A.

Switch D.

NOTE: Make this adjustment without power applied to the unit.

Loosen screws E and slide plate F backwards or forwards so that positive action of switch D is only just obtained when arm B is pulled against the stop in the direction of arrow G.

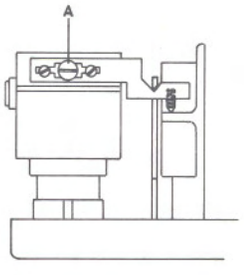
Horizontal Placement (Fixing)



Place pickup arm in pivot bracket so pickup-arm centre line C is located in the centre line of the pin B with an accuracy to ± 0,2 mm. Adjustment is made by loosening screw A and sliding the pickup arm to one side or the other, thereafter retightening screw A.

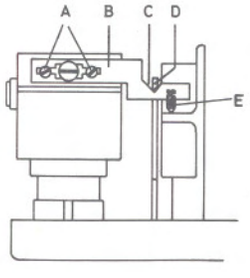
Adjustment is made by means of a plug jig (e.g. a 2.2 mm drill) placed as shown in the sketch.

Static Balance



Set stylus force adjustment screw at ,,0''.
Release pickup arm from lift arm.
Adjust screw A until system balance is obtained.

Parallelism

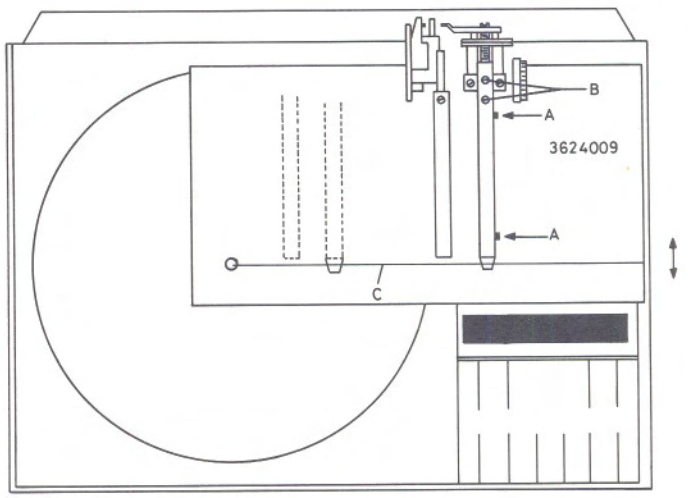


The pickup arm should be adjusted parallel with pins A in tool 3624009.

To make the adjustment, loosen screws A and thereafter slide arm B backwards or forwards. To check for parallelism, see that arm D is fully down in notch C.
Fine adjustment, if necessary, is made by bending arm C.

With screw E, adjust pickup arm to be horizontal. Reference: detector arm.

Adjustment of pickup arm Length

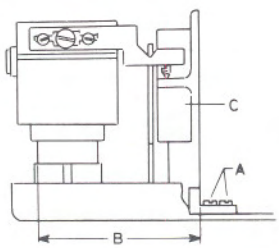


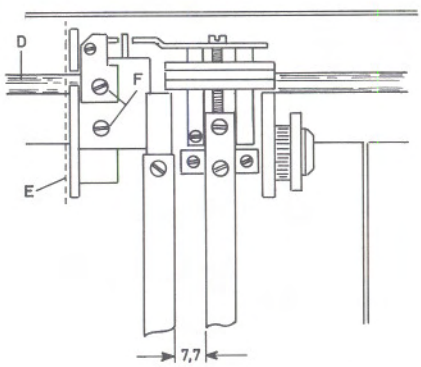
Adjust stylus force to 1 gr. Take off turntable. Run pickup arm in towards the centre.

Mount tool 3624009 on the Beogram 4002/6000 as shown by sketch. Run pickup arm out close to pins A. Lower pickup on to tool. Slide tool backwards or forwards so that stylus drops into groove C. Keep tool fixed in this position. Raise pickup and run it towards the centre. Lower pickup into the position shown in the sketch. If the stylus hits outside groove C, adjust screw B so that the deviation in question is halved. Run the pickup arm all the way out close to pins A. At this point lower the pickup and slide tool 3624009 so that the stylus is exactly in groove C. Raise the arm and now check if the arm is equally spaced from the pins A. Also make sure that the lifting arm rests in the bottom of the V-notch C on the arm B.

(See Parallelism Adjustment)

Detector Arm Adjustment

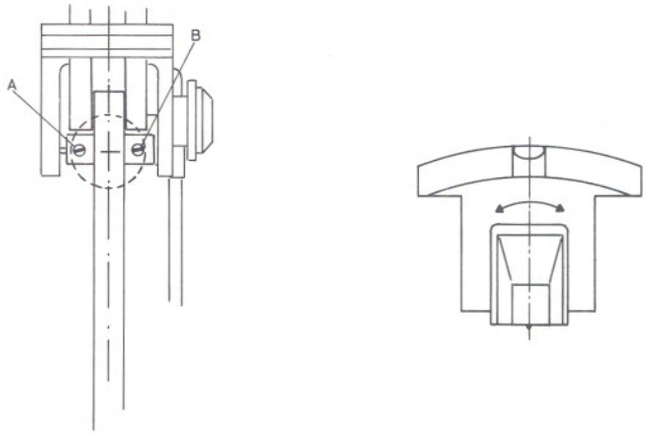




Loosen screws A.
Adjust detector arm holder C so that distance B is 49.4 mm. Make sure that surface E is at right angles to pole D.
With screws F loosened, adjust detector arm so that it is parallel with pickup arm at a distance of 7.7 mm (the pickup arm should be adjusted for horizontal placement and parallelism).
The adjustment may also be made with the pickup-arm cover plate mounted. Adjust the detector arm so that the air gap between the cover plate and the arm is the same on all three sides and the same for both arms while being parallel with the pickup arm at a distance of 7.7 mm.

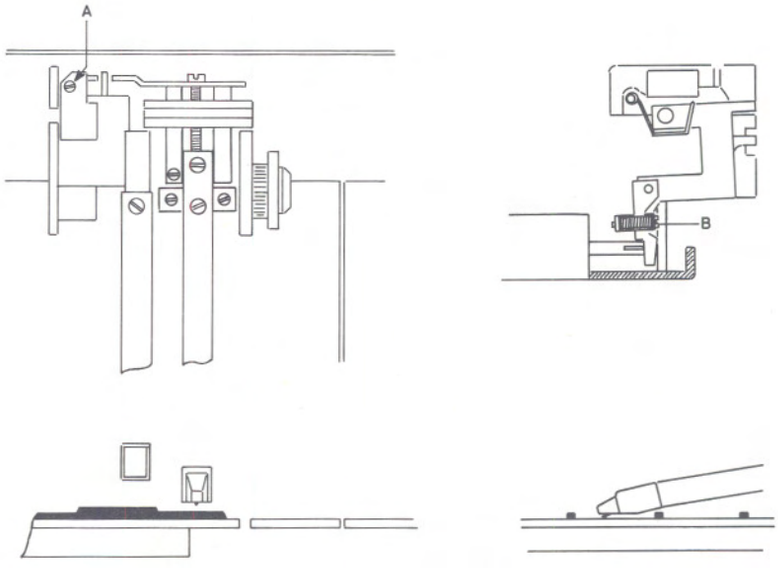
Bang & Olufsen

Rotation



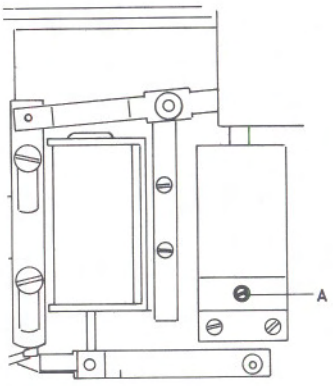
By loosening screw A and tighttening screw B or vice versa adjust the rotation of the pickup arm so that its top side is parallel with the rods.
Use a spirit level for checking this adjustment.

Lowering Adjustment



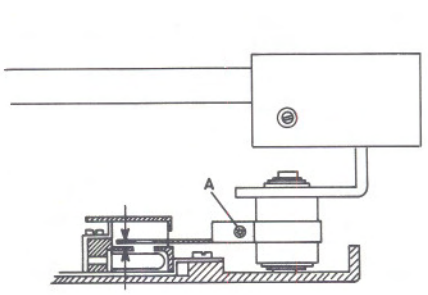
Loosen screw A.
Adjust screw B so that the pickup stylus, in the lowered condition of the pickup arm, only just touches the turntable between the ribs.
Thereafter adjust screw A, also in the lowered condition of the pickup arm, so that the pickup stylus positively clears the low portion of the turntable ribs (by approx. 0.5 mm).

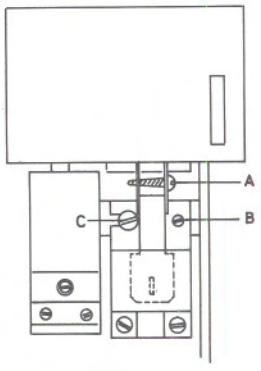
Adjustment of Damper Cylinder



Adjust valve A so that pickup lowers smoothly. Lowering time: approx. 1 sec.

Adjustment of Shutter





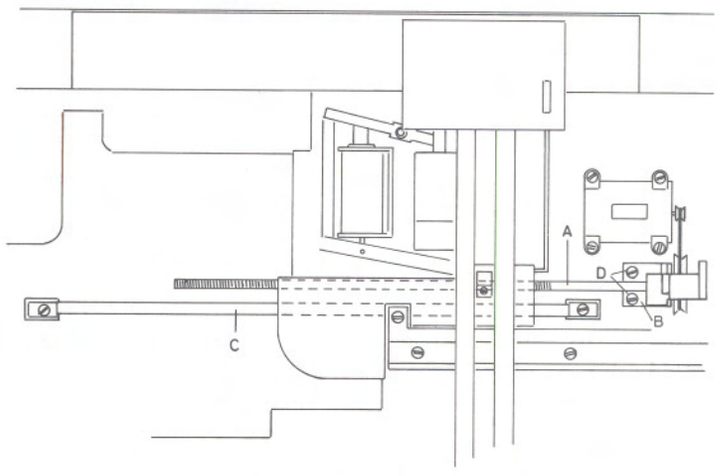
To adjust the shutter, loosen screw A and slide it on the arm pivot.

The shutter should be adjusted to be as close as possible to the housing without touching it. Also adjust the shutter so that the shutter arm will be parallel with pickup arm.

Fine adjustment of the shutter is made with a disc on turntable and with the turntable belt removed.

1: Run arm in across disc.
2: Lower pickup.
3: Turn turntable by hand and check to see that the servo regulates the first time after 1 - 3 revolutions and thereafter at each revolution.
4: If the servo does not regulate within 1 - 3 revolutions, loosen screw C and adjust eccentric B; Thereafter raise the arm and repeat items 2 to 4.
5: When eccentric B has been adjusted, tighten screw C.

Adjustment of Spindle

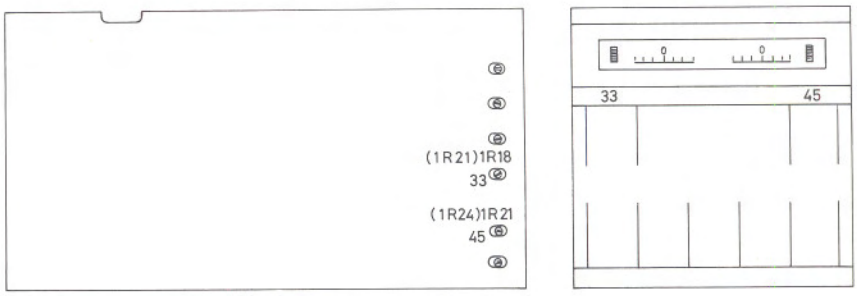


Adjust spindle A to be parallel with rod C.
To adjust, loosen screws D and turn cap B.

ELECTRICAL ADJUSTMENT
Speed

References to adjustment potentiometers without brackets apply to:
BEOGRAM 4000 until No. 257556
BEOGRAM 6000 until No. 260028

References in brackets apply to units after the above numbers.



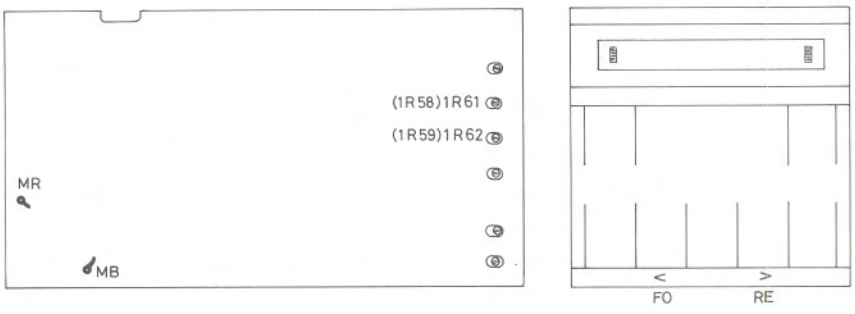
Set 33 and 45 r.p.m. dials to 0.
33 r.p.m. is adjusted with potentiometer 1R18 (1R21)
45 r.p.m. is adjusted with potentiometer 1R21 (1R24).
Speed may be checked in several ways:

1: Stroboscope disc and lamp connected to mains. This check involves an inaccuracy of approx. 2% due to the fact that the 50 Hz mains frequency varies by approx. ± 1 Hz.

2: Stroboscope disc and stroboscope lamp. This check provides an accuracy comparable to the tolerance of the trosboscope lamp which as a rule is considerably better than that of the mains frequency.

3: The reference to the production adjustment appears as the result of division to 50 Hz from a crystal of 1 MHz ± 1 Hz, providing an accuracy of the order of μ%.

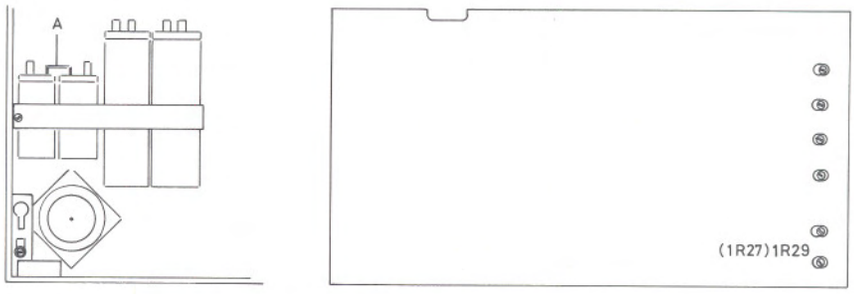
Slow slide transport



Connect vacuum-tube voltmeter at point MR. Depress FO button and adjust voltage at point MR to 5,5 V, using 1R61 (1R58).

Connect vacuum-tube voltmeter at point MB. Depress RE button, and adjust voltage at point MB to 5,5 V, using 1R62 (1R59).

Voltage for drive motor

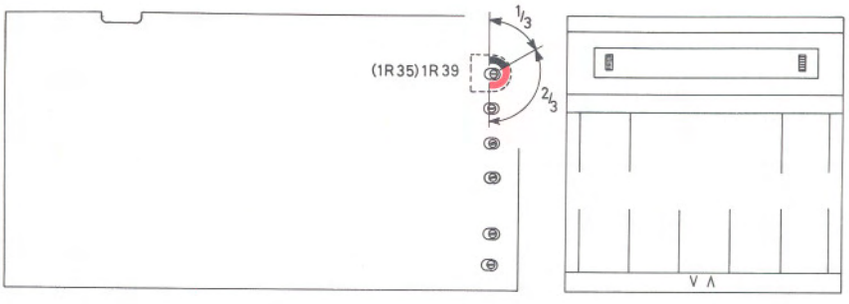


Connect LF vacuum-tube voltmeter and oscilloscope at point A so that measurements will be made with respect to chassis (zero) potential.

Adjust 1R29 (1R27) for maximum voltage and minimum 4.5 Vrms at both speeds.

No clipping (distortion) must occur.

Detector arm sensitivity



Adjustment of sensitivity on the detector arm circuit is carried out in the interest of transparant disc.

Turn 1R39 (1R35) (DRS) anti-clockwise against the stop; thereafter turn slowly clockwise until the pickup arm, by pressing LIFT, can be lowered to a transparant disc; making sure, however, that the pickup arm cannot be lowered when no disc has been placed on the turntable.

1R39 (1R35) (DRS) must be used only within the first 1/3 of the mechanical adjustment range; see sketch.

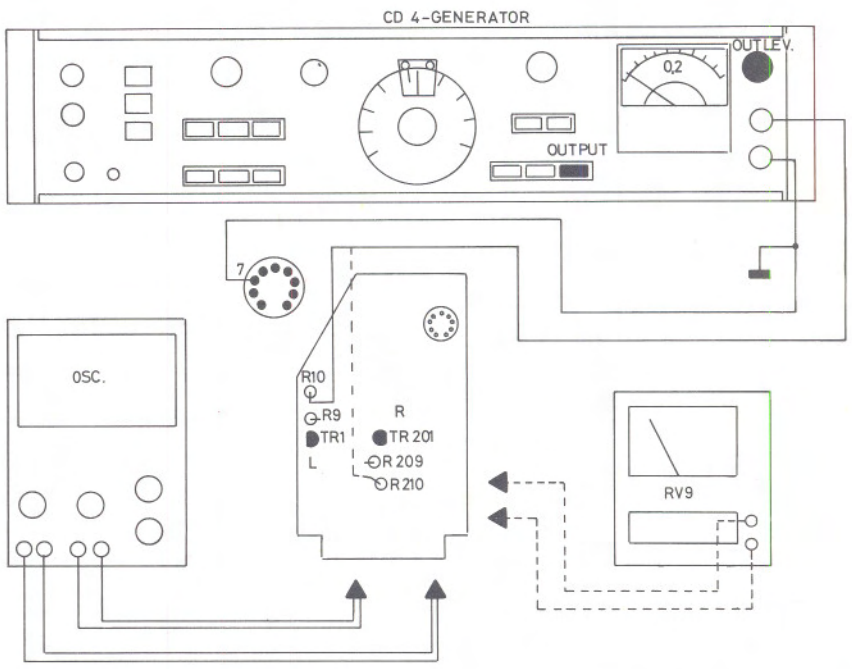
NOTE: The red sector for 1R39 (1R35) symbolises the range to which 1R39 (1R35) must not be set as it will then load the circuit.

This may have the consequence that the pickup arm can be lowered when no disc has been put on the turntable.

ADJUSTMENT OF CD-4 DECODER
Instruments

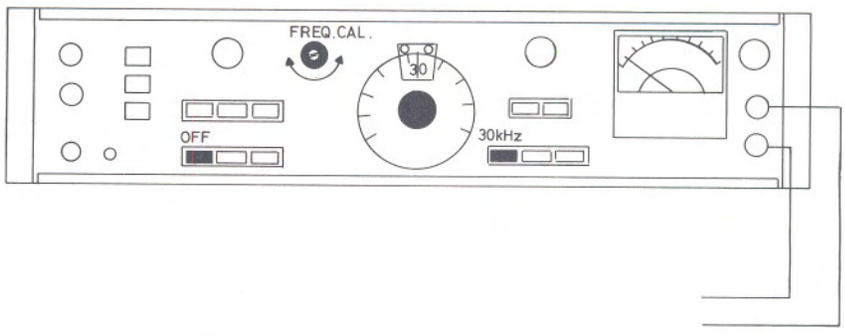
CD-4 Generator:	MSG 213, Meguro
LF Vacuum-tube voltmeter:	RV 9, B&O
Oscilloscope:	OS 1000, Advance D 65, Telequipment
Test disc:	4 DE - 205, JVC

Set-up



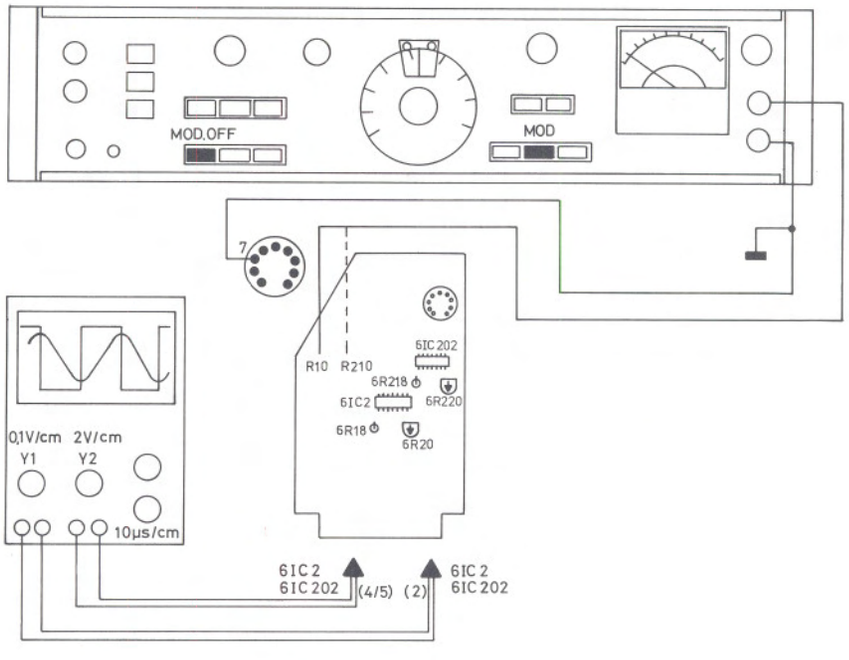
References are for left channel. Bracketed references are for right channel.
Before connecting the generator to the decoder, adjust output voltage to to 400 mV (0,2 on black scale with OUTPUT depressed).
The generator should be connected to the base of 6TR1 (6TR201).
NOTE: measuring instruments, generator and decoder should have power applied to them for not less than 15 mon. before making any adjustments.

Calibration of CD-4 Generator



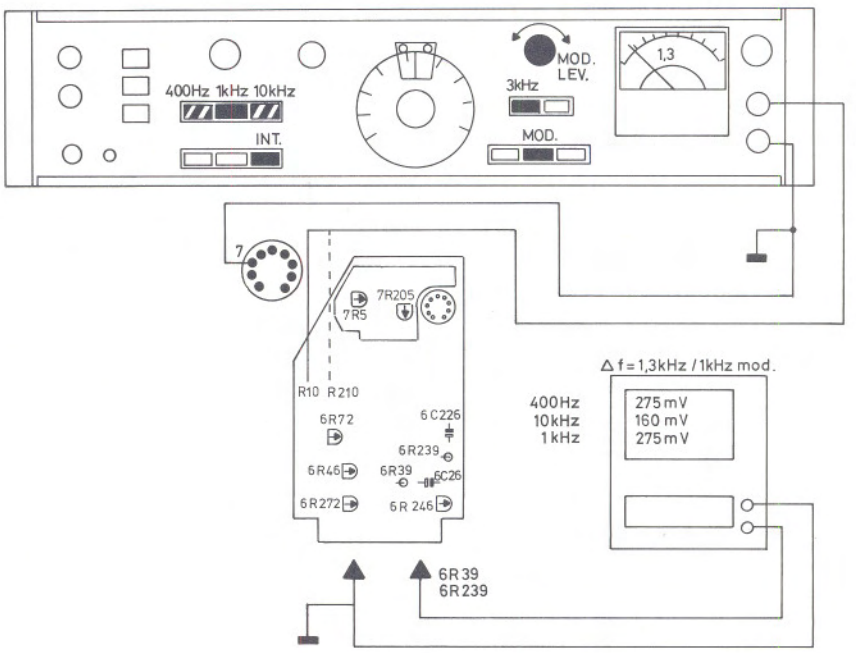
Depress MOD. SELECTOR ,,OFF".
Depress FREQ. CAL. 30 kHz.
Set FREQUENCY dial to 30 kHz.
Adjust FREQ. CAL. for minimum meter reading. Three dips will be noted during adjustment. Select dip giving lowest meter reading.

VCO



Depress MOD. SELECTOR ,,OFF".
Depress MOD.
Start BEOGRAM (press ,,ON" and thereafter ,,< ").
Connect Y 1 input of oscilloscope to pin 2 of 6IC2 (6IC202).
Connect Y 2 input of oscilloscope to pins 4 and 5 of 6IC2 (6IC202).
Sensitivity: Y 1 = 0,1 V/cm; Y 2 = 2 V/cm; 10 µS/cm.
Adjust 6R20 (6R220) so that the leading and trailing edges of square-wave voltage intersect bottom and top of sine-wave voltage as shown in the sketch.

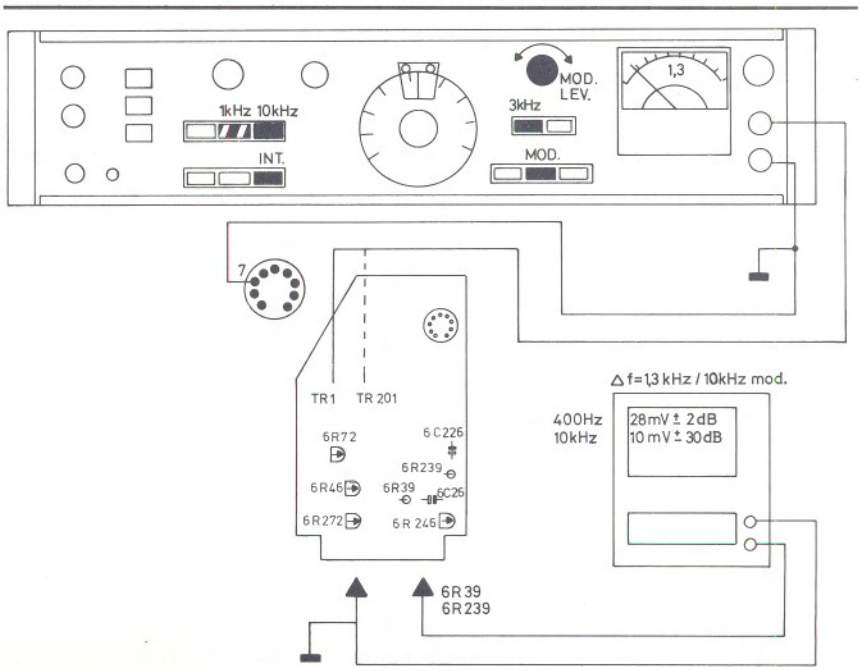
ANRS
Coarse Adjustment



The dB values specified in the Adjustment Procedure refer to 0 dB = 1 V RMS.

(1) Turn 7R5 (7R205) clockwise against the stop.
(2) Turn 6R72 (6R272) anti-clockwise against the stop.
(3) Depress MOD. SELECTOR ,,INT"
(4) Depress ,, 1 kHz".
(5) Depress METER RANGE ,,3 kHz".
(6) Depress ,,MOD".
(7) Adjust ,,MOD. LEVEL" for 1,3 on meter (0-3 scale).
(8) Connect LF vaccum-tube voltmeter to 6R39 (6R239).
(9) Depress ,,400 Hz".
(10) Adjust 6R46 (6R246) for 275 mV (-11 dB) at 6R39 (6R239)
(11) Depress ,,10 kHz".
(12) Adjust 6R72 for 160 mV (-16 dB).
(13) Depress ,,1 kHz".
(14) LF vacuum-tube-voltmeter reading should be 275 mV (-11 dB) ± 1 dB.
If tolerance is not met, check adjustment of CD-4 generator, 6R46 (6R246) and 6R72 (6R272)

Fine Adjustment



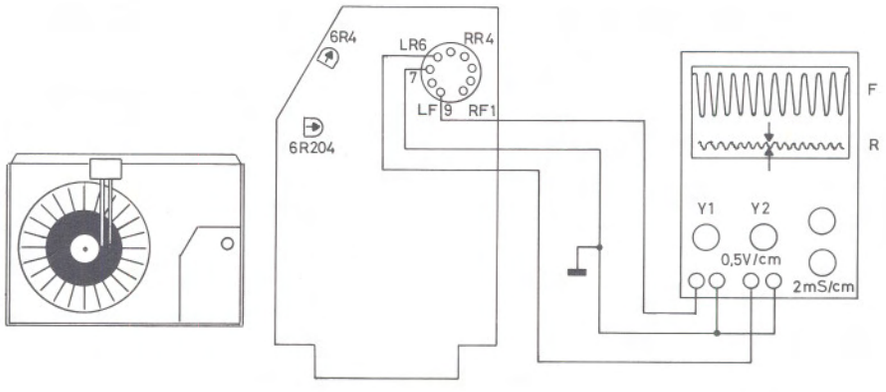
(15) Depress ,,10 kHz"
(16) Depress METER RANGE ,,3 kHz"
(17) Depress MOD.
(18) Adjust ,,MOD LEVEL" so that meter reads 1,3 (0-3 scale).
(19) Voltage at 6R39 (6R239) should be 10 mV (-40 dB) ± 3 dB.
(20) If tolerance is not met, perform fine adjustment of 6R72 (6R272).
(21) Depress ,,400 kHz".
(22) Voltage at 6R39 (6R239) should be 28 mV (-31 dB) ± 2 dB.
(23) If tolerances are not met, perform fine adjustment of 6R46 (6R246).
(24) In the cases where fine adjustments have been performed after the coarse adjustments, recheck items (4) to (14) under Coarse Adjustment above.
400 Hz ± 1 dB; 10 kHz ± 3 dB
(25) If tolerances there are not met it may be found useful to check the gain of the ANRS circuit;
this will reveal any failures in said circuit.

The chart, which is intended as a guide, is to be used during checking of input level relative to output level.

	mod. freq.	*inp.		outp.	
	Hz	mV	-dB	mV	-dB
Δf = 1,3 kHz v. 1 kHz	400	180	15	275	11
	10 k	90	21	160	16
Δf = 1,3 kHz v. 10 kHz	400	40	28	28	31
	10 k	25	32	10	40

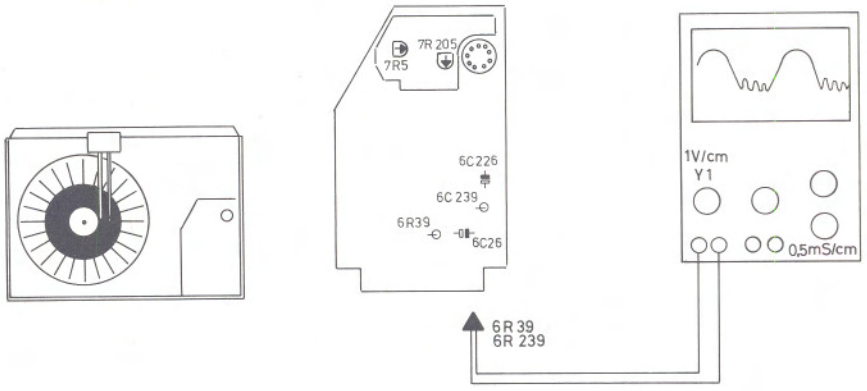
*
Input level to be measured between 6L2 (6L202) and 6R35 (6R235).

Separation



Remove connections to CD-4 generator.
Separation can be measured in different ways.
1: By means of an oscilloscope.
Connect Y 1 input of oscilloscope to decoder output, pin 9 (1) (hot) and pin 7 (7) (cold) of socket.
Connect Y 2 input of oscilloscope to decoder output, pin 6 (4) (hot) and pin 7 (7) (cold) of socket.
Sensitivity: 0.5 V/cm: 2 mS/cm.
Play test record, e.g. JVC 4DE - 205, section 3, with the MMC 6000 to be used with the decoder. Adjust 6R4 (6R204) for minimum at Y 2 input of oscilloscope, corresponding to minimum in rear channel.
2: By means of a 4-channel amplifier.
Turn off front channels.
Play test record JVC 4DE - 205 with the MMC 6000 to be used with the decoder.
Adjust 6R4 (6R204) for minimum sound in rear channels.

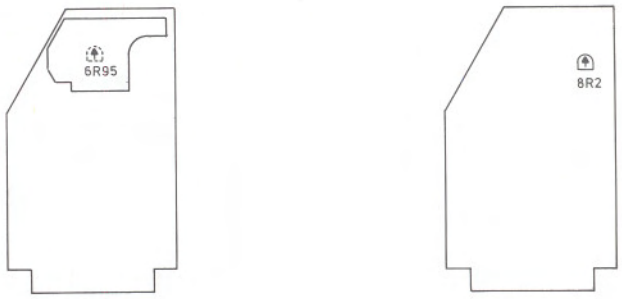
Carrier Detector



SILENT CIRCUIT

Adjust carrier detector by means of JVC test record 4DE - 205, section 2. Adjust 7R5 (7R205) so that 400 Hz sine-wave curve is only just undistorted.

NOTE: After replacement of pickup it is necessary to perform adjustment of channel separation and carrier.



Beogram 6000

Adjust 6R95 to admit passage of pickup signal between 1 and 2 disc revolutions after pickup has been lowered (33 r.p.m.)

Beogram 4002

Adjust 8R2 as described for 6R95 above

Bang & Olufsen

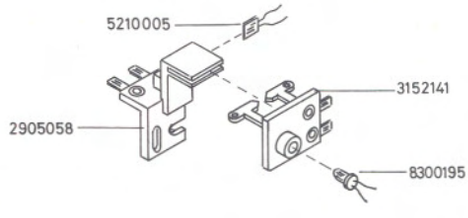
PARTS LIST FOR BEOGRAM 4002-6000
TYPE 5501 - 5502

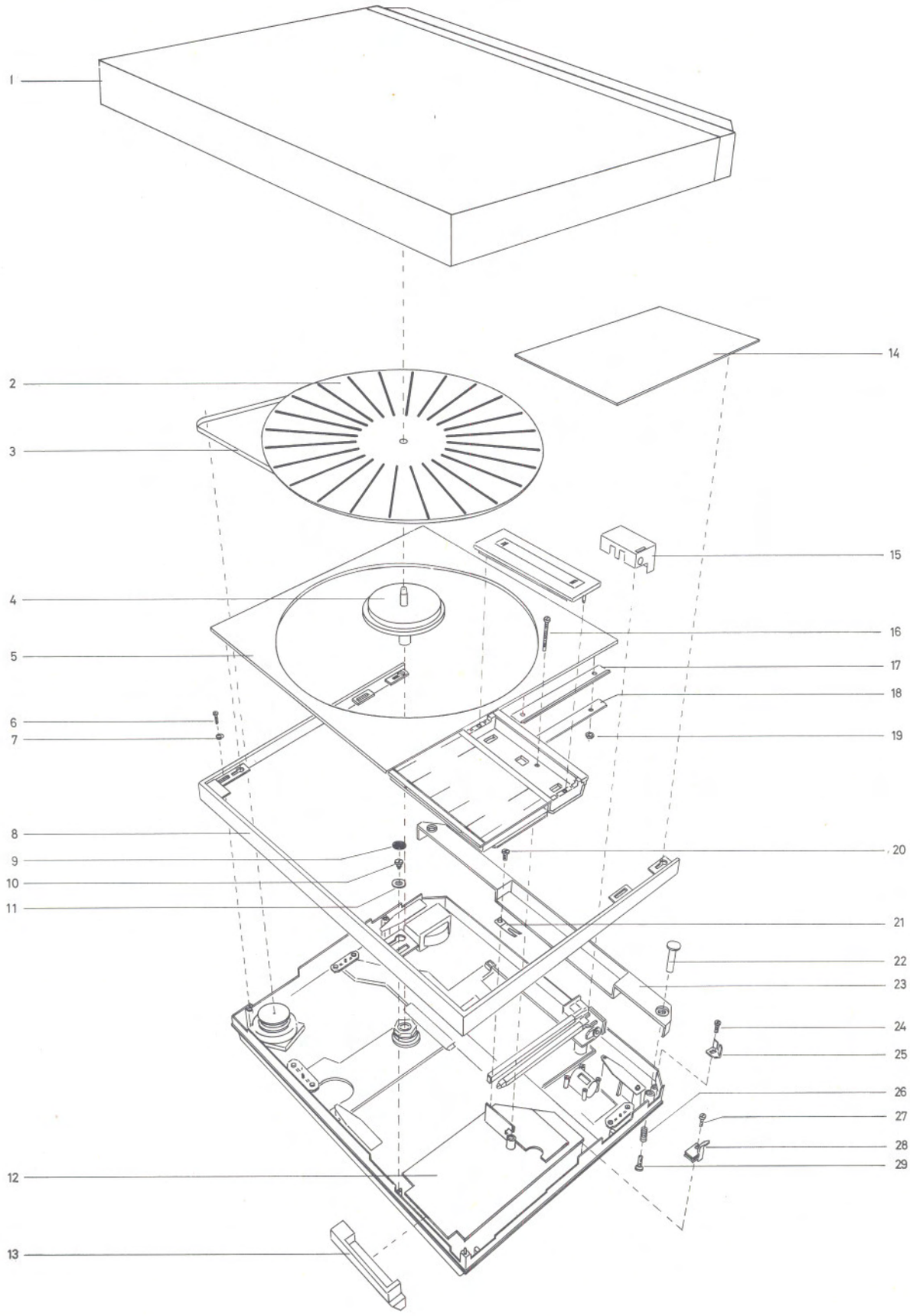
1	3164184	Lid collected - BEOGRAM 4002
	3164183	Lid collected - BEOGRAM 6000
2	2726086	Turntable
3	2732018	Driving-belt
4	2726078	Turntable lower
5	3458113	Top plate
6	2038009	Screw AM 3 x 8 mm DIN 963
7	2803004	Steering washer
8	3412051	Cabinet, teak 4002
	3412053	Cabinet, rosewood 4002 + 6000
	3412054	Cabinet, oak 4002
	3412055	Cabinet, white 6000
9	3912037	Felt washer
10	2038901	Screw
11	2620019	Washer
12	8009029	PC board muting BEOGRAM 4002
	8005012	PC board decoder BEOGRAM 6000
	8009026	PC board carrier frequency detectors BEOGRAM 6000
13	3152159	Holder
14	3458114	Top plate
15	3164142	Cover for PU-arm
16	2038237	Screw AM 3 x 30 mm DIN 84
17	2816085	Spring
18	3014023	Steering plate
19	2380093	Nut M3 nylon
20	2042205	Screw AM 4 x 6 mm DIN 84
21	2816083	Holder
22	2994012	Bushing
23	3452204	Back piece for BEOGRAM 4002
	3452205	Back piece for BEOGRAM 6000
24	2038208	Screw AM 3 x 5 mm DIN 84
25	3014028	Rule for back piece right
	3014029	Rule for back piece left
26	2810066	Spring
27	2038220	Screw AM 3 x 12 mm DIN 84
28	3152135	Lead holder
29	2042216	Screw AM 4 x 16 mm DIN 84

Comment on pos. 137, page 7-8:

BEOGRAM 4002, type 5501 till No. 277556
BEOGRAM 6000, type 5502 till No. 260028

When ordering parts for run-off stop please apply the numbers shown on the sketch

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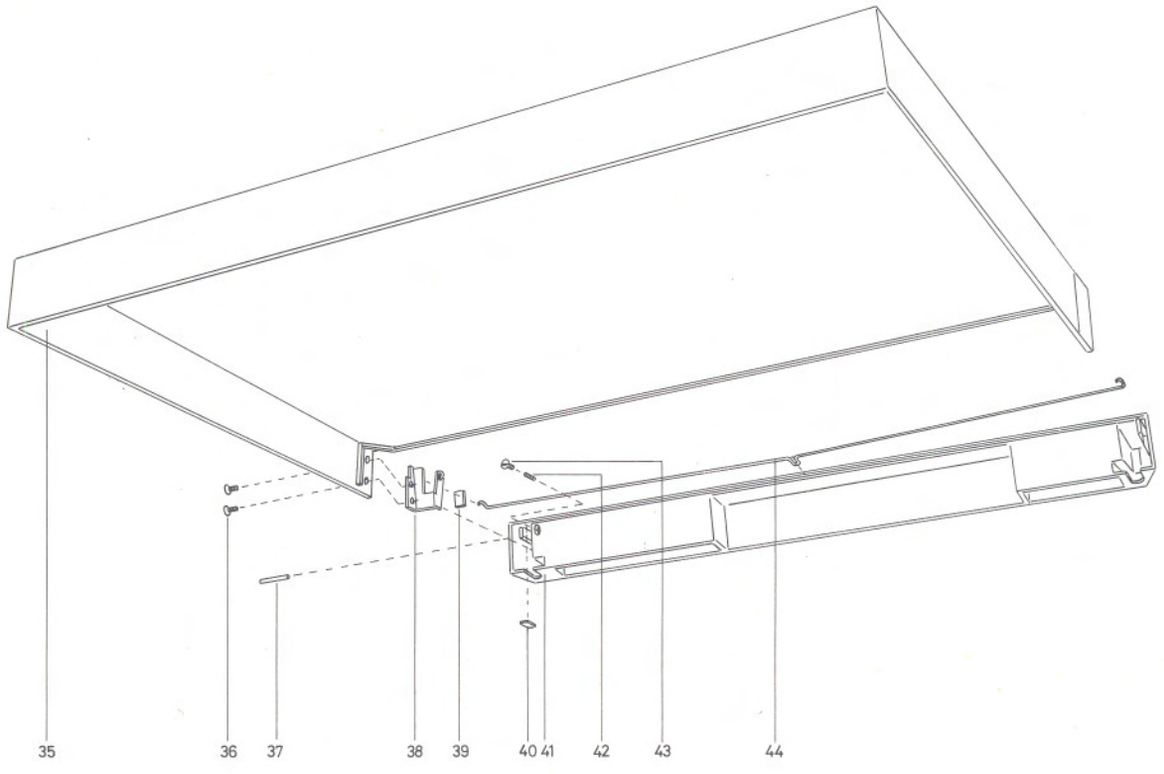
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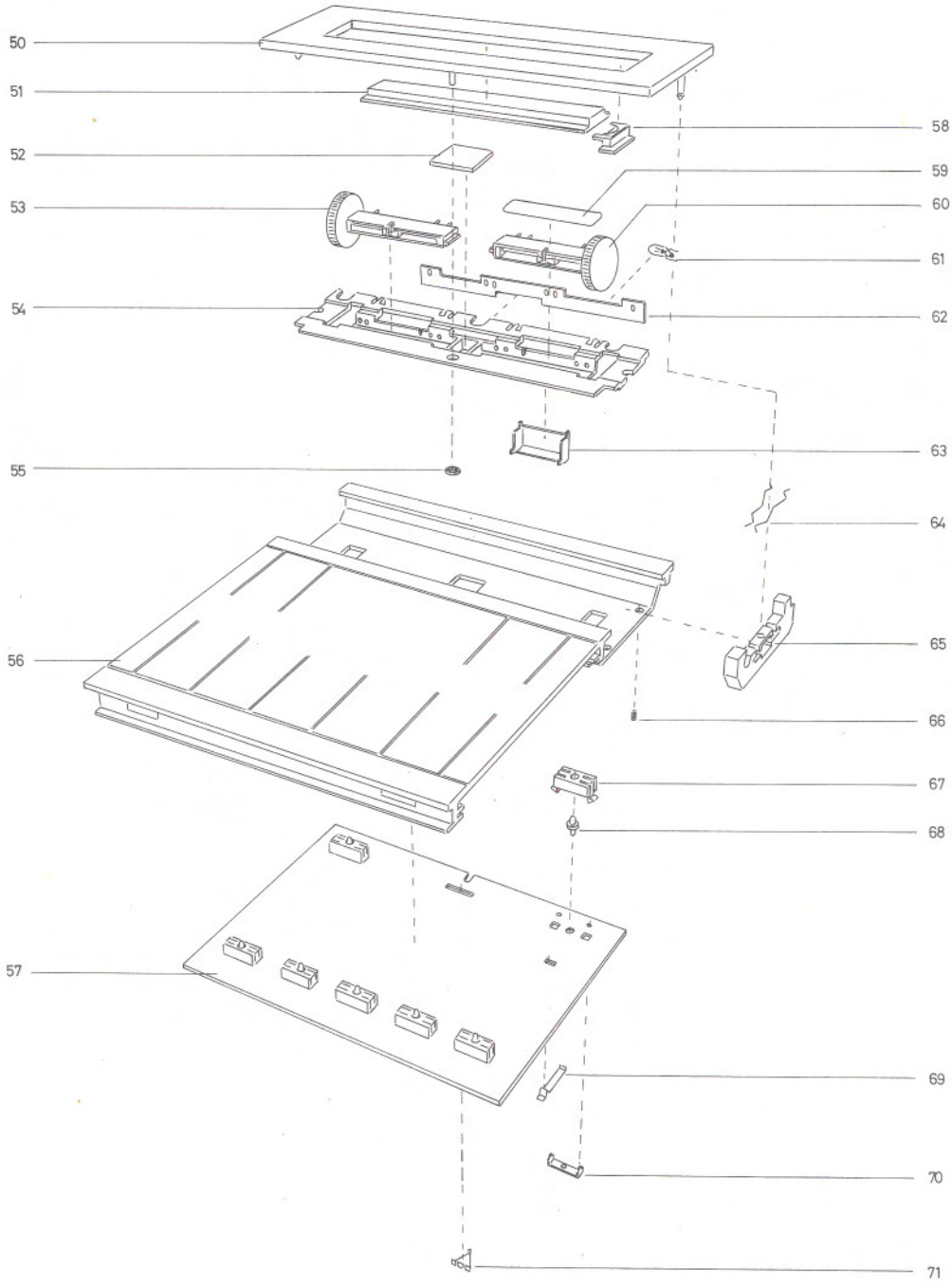
35	3164190	Dust cover
	3010007	Stop for cover
	2560039	Decorative list for BEOGRAM 4002
	2560040	Decorative list for BEOGRAM 6000
36	2038055	Screw AM 3 x 6 mm DIN 63
37	2830014	Bearing needle
38	3030023	Hinge left
	3030022	Hinge right
39	3015030	Guide piece
40	3010011	Stop for cover
41	3452145	Back piece
42	2072704	Treaded pin M3 x 2,5 mm DIN 438
43	2038050	Screw AM 3 x 4 DIN 63
44	2819062	Spring

50	3458121	Top plate
51	3199046	Dial
52	3164179	Cover
53	5300090	Potentiometer, left
54	3131085	Housing for potentiometer
55	2395034	Spire
56	3168049	Chassis complete, BEOGRAM 4002
	3168048	Chassis complete, BEOGRAM 6000
	2361018	Pin 2 x 5 mm
57	8009020	PC-board, terminal print
58	3199047	End piece
59	3180621	Sticker
60	5300091	Potentiometer, right
61	8230052	Lamp
62	6140376	PC-board
63	3300044	Cover
64	2819096	Spring
65	3152129	Holder
66	2072701	Threaded pin M 3 x 4 mm DIN 438
67	3152068	Holder
68	2992059	Contact pin
69	7500075	Contact spring
70	7500050	Contact bridge
71	2816111	Locking spring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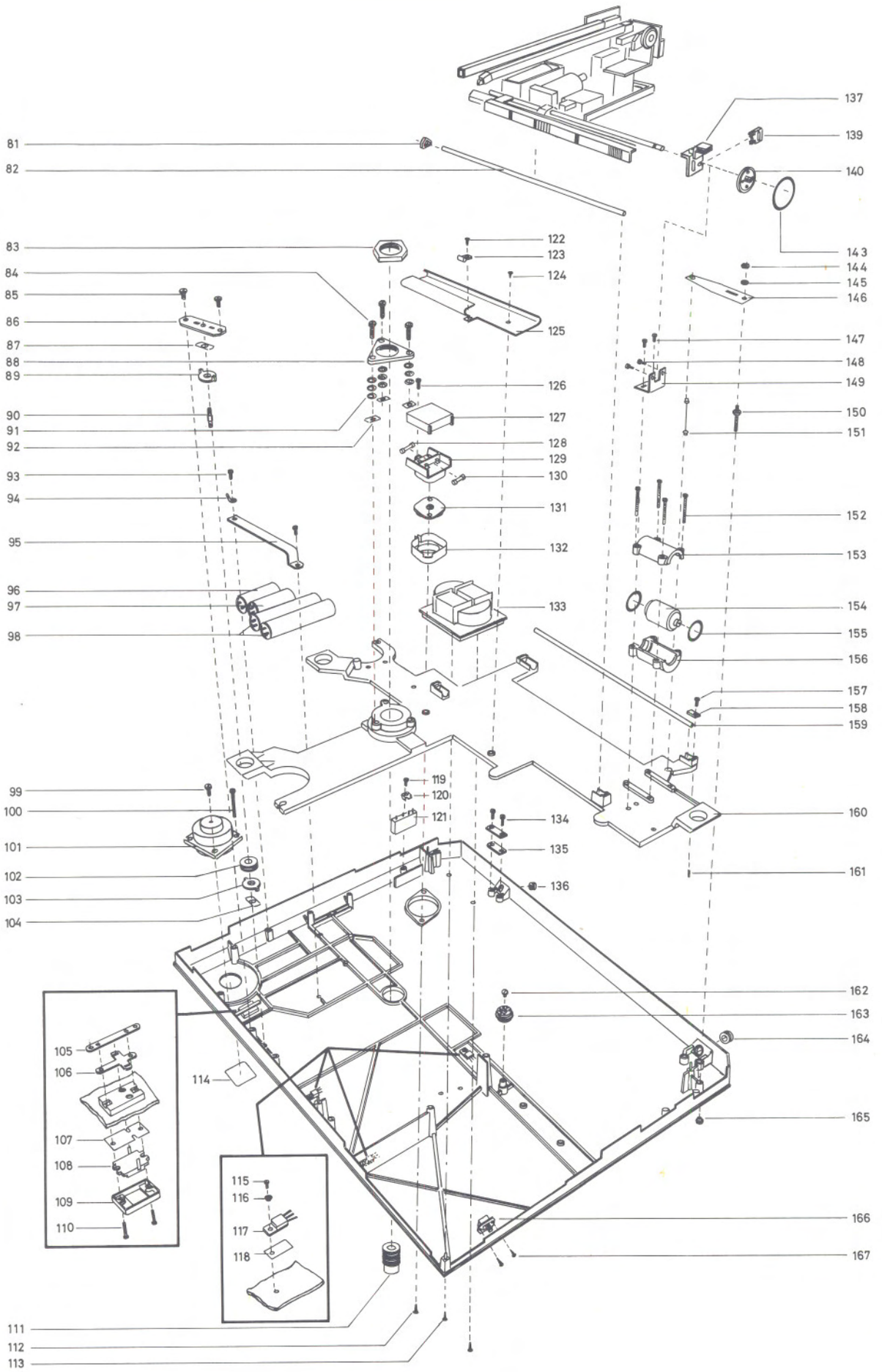
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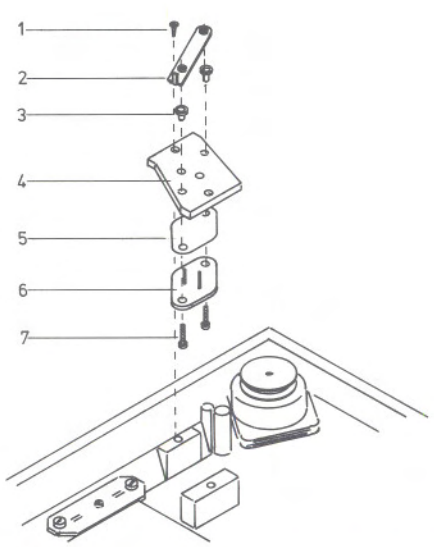
81	2905045	Bearing for slide
82	2830049	Shaft
83	2380096	Nut
84	2038216	Screw AM 3 x 10 mm DIN 84
85	2042211	Screw AM 4 x 12 mm DIN 84
86	3014021	Rule
87	2628005	Spring
88	2641076	Clamp
89	2381008	Wing nut
90	2993024	Threaded pin
91	2624027	Washer
92	2390020	Spire nylon
93	2038208	Screw AM 3 x 5 mm DIN 84
94	7530008	Solder tag
95	2510108	Clamp
96	4200260	150 µF BIPOLAR
97	4200259	4000 µF/25 V
98	4200310	4000 µF/50 V
99	2038216	Screw AM 3 x 10 mm DIN 84
100	2038233	Screw AM 3 x 20 mm DIN 84
101	8400066	Motor
	2722010	Belt washer
102	2938099	Rubber bushing
103	2381007	Wing nut
104	2628005	Spring
105	7530045	Solder tag
106	3172027	Insulating piece
107	3170047	Mica sheet
108*	8320103	Transistor, 0TR1
109	3164027	Cover
110	2034215	Screw AM 2 x 8 mm DIN 84
111	2905064	Bearing
112	2013012	Screw 2,84 x 12,7 ART 4260
113	2013002	Screw 2,84 x 6,35 ART 4260
114	3180632	Sticker, black
115	2038206	Screw AM 3 x 4 mm DIN 84
116	2938097	Insulating bushing
117	8320266	Transistor 0TR2
	8320265	Transistor 0TR3
	8320312	Transistor 0TR4
118	3170121	Mica sheet
119	2038247	Screw AM 3 x 6 mm DIN 84
120	2574043	Bracket
121	8310020	Rectifier
122	2013200	Screw 2,84 x 6,35 ART 4261
123	2514023	Lead holder
124	2013002	Screw 2,84 x 6,35 ART 4260
125	3013017	Rule
126	2038247	Screw AM 3 x 6 mm DIN 84
127	3164109	Cover
	3180607	Plate
128	6600000	Fuse 250 MA-250VT
129	3131060	Fuse holder
130	6600000	Fuse 250MA-250V-T
131	7401001	Mains-voltage switch
132	3131050	Housing for mains-voltage switch
133	8013137	Mainstransformer
134	2038222	Screw AM 3 x 14 mm DIN 84
135	0287155	Clamp
136	2938077	Rubber
137	2905056	Bearing for spindle
139	2905055	Bearing
140	2722014	Pulley
	2072920	Treaded pin M 2 x 6 mm
	2380068	Square nut M2
143	2732032	Servobelt
144	2380016	Nut
145	2622022	Washer
146	2816081	Blade spring
147	2038208	Screw AM 3 x 5 mm DIN 84
148	2038208	Screw AM 3 x 5 mm DIN 84
149	2530253	Bracket
150	2072914	Adjustment screw
151	3955022	Strop
152	2038235	Screw AM 3 x 25 mm DIN 84
153	3131048	Housing for motor
154	8400062	Servomotor
	2722016	Pulley
155	2732015	0-ring
156	3131048	Housing for motor
157	2038216	Screw AM 3 x 10 mm DIN 84
158	2644003	Clamp
159	2830045	Shaft
160	3114066	Chassis
161	2072705	Treaded pin M 3 x 4 mm
162	2038901	Screw
163	7200031	Noval socket
	7220066	Noval plug
164	2938004	Rubber bushing
165	3103067	Feet
166	6273712	Switch
	7500014	Contact bushing
167	2011304	Screw

*Pos. 108

When replacing 0TR1 in chassis with transistor mounting as shown on the drawing to the right order No. 8320222.
(Production of transistor 8320103 has stopped)

1	2013004	Screw 2,84 x 9,52 ART 4260
2	7530045	Soldering lug
3	2938009	Insulating bushing
4	3358101	Heat sink
5	3170002	Mica sheet
6	8320222	Transistor 0TR1
7	2038216	Screw AM 3 x 10 DIN 84



174	2038952	Screw 3 x 4 DIN 963
175	2038206	Screw 3 x 4 DIN 84
176	2038247	Screw AM 3 x 6 mm DIN 84
177	2072918	Treaded pin M 3 x 15 mm
178	3151086	Holder
179	2038247	Screw AM 3 x 6 mm DIN 84
	2625002	Tooth-lock washer 3,2
	7530008	Solder tag
180	3152076	Holder
181	2032208	Screw AM 3 x 5 mm DIN 84
182	3391407	Transport protection
183	2034236	Screw AM 2 x 3 mm DIN 84
184	3152145	Holder for cover
	3947421	Tape
	2645025	Plate
185	3937808	Slave arm
186	2390004	Circlip UG 3 x 0,6
187*	3152179	Holder for pickup arm complete
188	2810044	Spring
	6420044	Insulation
189	8760002	Foto cell
190	2853025	Arm
191	8230047	Lamp 6 V
192	3375023	Optics
193	2853039	Arm
194	2810024	Spring
195	6810001	Magnet coil
196	2850047	Press bar
197	2038948	Screw
198	2854022	Change lever
199	2034236	Screw AM 2 x 3 mm DIN 84
200	2850077	Pickup arm
201	2038216	Screw AM 3 x 10 mm DIN 84
202	2641075	Clamp
203	2072911	Adjustment screw
204	8954410	Pickup MMC 4000 - BEOGRAM 4002
	8954400	Pickup MMC 6000 - BEOGRAM 6000
	3624008	Service-kit for pickup
205	3302230	Cap for pickup
206	2038948	Screw
207	2624021	Washer
208	2038206	Screw AM 3 x 4 mm DIN 84
209	8009028	PC-board
	7400115	Microswitch
210	2389031	Bearing nut
211	2038208	Screw AM 3 x 5 mm DIN 84
212	3152074	Holder
213	2993028	Spindle
214	3199048	Dial
215	3151139	Holder for dial
216	2816116	Spring
217	2034220	Screw AM 2 x 12 DIN 84
218	2034211	Screw AM 2 x 6 DIN 84
219	2819061	Spring
220	2851083	Lifting arm complete
	2812065	Spring
	2034219	Screw AM 2 x 10 DIN 84
221	2812041	Spring
222	2390004	Circlip
223	2894029	Armature
224	2802023	Washer
225	2038233	Screw AM 3 x 20 mm DIN 84
226	2072701	Treaded pin M 3 x 4 mm
227	2034231	Screw AM 2 x 4 mm DIN 84
228	2854023	Arm
229	2390001	Circlip
230	3342030	Counterweight
231	3152162	Holder for counterweight
232	2390046	Circlip
233	2070400	Treaded pin
234	3150032	Bearing holder
	2900003	Ball bearing
	2622168	Washer, brass
	2812036	Spring
	2390047	Circlip
235	2548109	Bracket
236	2700008	Adjustment bushing
237	2834041	Shaft collected
238	2831025	Shaft
239	2365085	Valve
240	2390046	Circlip
241	2038206	Screw AM 3 x 4 mm DIN 84
242	3131059	Damper cylinder
243	2038222	Screw AM 3 x 14 mm DIN 84
244	3164196	Housing with lamp
245	2854024	Diaghragmarm
246	2013203	Screw 2,84 x 12,7 mm ART 4261
247	3131052	Housing for foto resistor
	5210004	Fotoresistor
248	3151085	Holder
249	2038946	Screw
250	2794029	Roller
251	2622041	Washer
252	2038208	Screw AM 3 x 5 mm DIN 84
253	2798003	Exentrik
254	3114068	Chassis, slide
	3180536	Sticker for transport screw
	2038946	Screw
	2620028	Rubber disc
255	2624028	Thrust washer
256	2390046	Circlip
257	2510086	Bracker
258	6140417	PC-board
259	2038206	Screw AM 3 x 4 mm DIN 84

NOT SHOWN PARTS

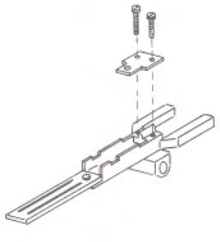
6271048	Mains lead
6270169	PU-wire with plug
3535039	Instruction diaphragm 5501/5502
3391384	Outer carton
3391385	Top/bottom inserts
3397157	Packing - lidinserts
3397158	Packing - left
3397159	Packing - right

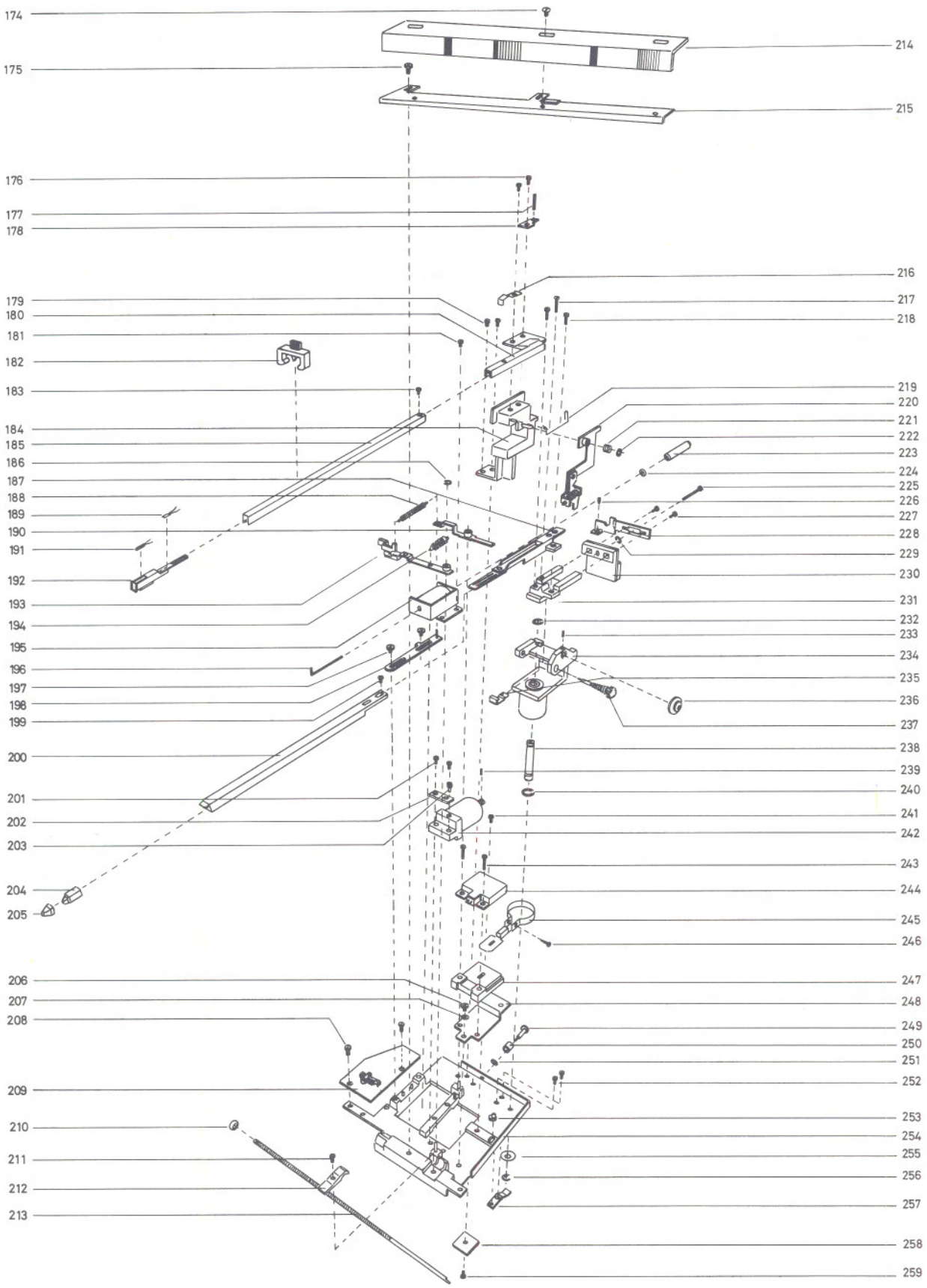
SUBJECT TO CHANGE WITHOUT NOTICE

* Pos. 187

Two types of holders for pick-up arm have been used in production.
The type shown to the right is no longer available. If one of the parts for this holder is defective and must be replaced it will be necessary to replace the following parts:

187	3152179	Holder for pick-up arm, complete
200	2850077	Pick-up arm

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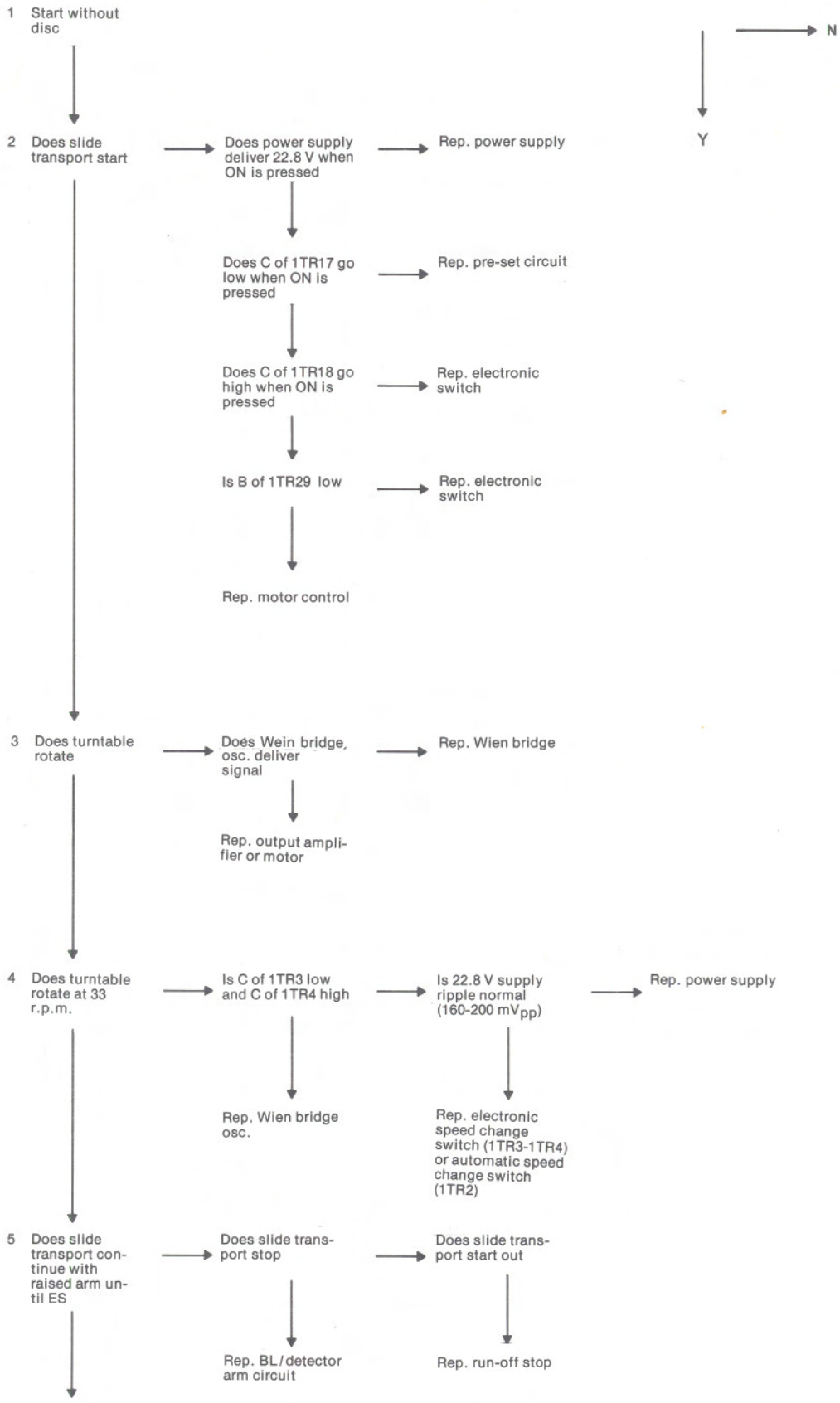
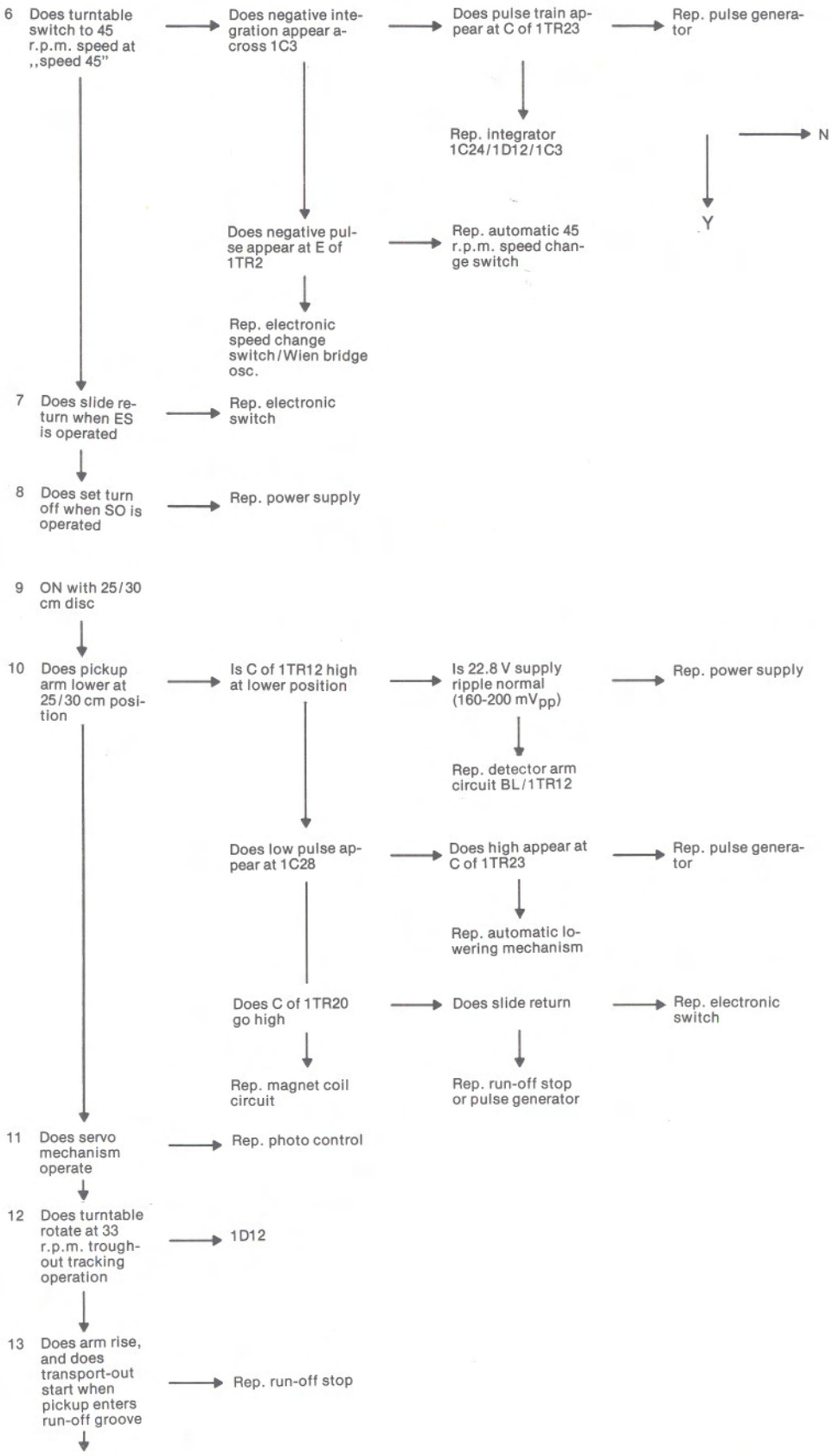
LUBRICATION

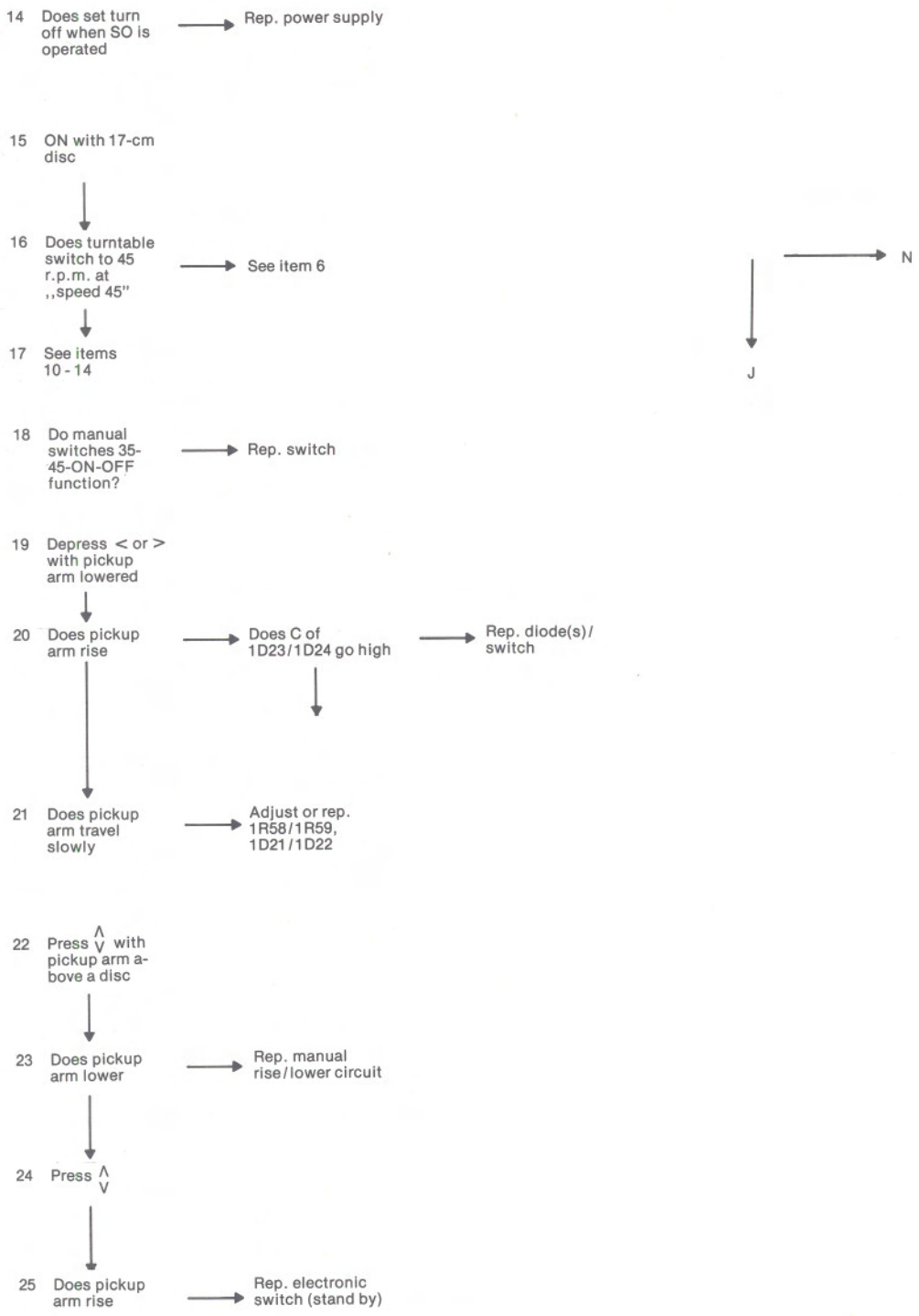
The need for relubrication is negligible.

In the case of overhauls and replacement of mechanical parts the directions given below should be followed.

Pos. No.	Description	Lubricant
190	Arm	3984211, Castrol everyman oil
193	Arm	
198	Arm	
220	Arm	
250	Roller	
242	Damper cylinder	3984214, Dow corning 200 fluid
194	Magnet-coil'spring	3984222, Valvata oil 79
137	Bearing for spindle	3984218, Mylocote DX paste (white)
213	Spindle	3984216, Rocol MTS 1000. Diluted to oily viscosity with ESSO NUTO H 44
111	Main bearing	3984221, ESSO NUTO H 44
		Alternative: Teresso 43


1 Start without disc
2 Does slide transport start
Does power supply deliver 22.8 V when ON is pressed
Rep. power supply
N
Y
Does C of 1TR17 go low when ON is pressed
Rep. pre-set circuit
Does C of 1TR18 go high when ON is pressed
Rep. electronic switch
Is B of 1TR29 low
Rep. electronic switch
Rep. motor control
3 Does turntable rotate
Does Wein bridge, osc. deliver signal
Rep. Wien bridge
Rep. output amplifier or motor
4 Does turntable rotate at 33 r.p.m.
Is C of 1TR3 low and C of 1TR4 high
Is 22.8 V supply ripple normal (160-200 mVpp)
Rep. power supply
Rep. Wien bridge osc.
Rep. electronic speed change switch (1TR3-1TR4) or automatic speed change switch (1TR2)
5 Does slide transport continue with raised arm until ES
Does slide transport stop
Does slide transport start out
Rep. BL/detector arm circuit
Rep. run-off stop


6 Does turntable switch to 45 r.p.m. speed at „speed 45"
Does negative integration appear across 1C3
Does pulse train appear at C of 1TR23
Rep. pulse generator
Rep. integrator 1C24/1D12/1C3
N
Y
Does negative pulse appear at E of 1TR2
Rep. automatic 45 r.p.m. speed change switch
Rep. electronic speed change switch/Wien bridge osc.
7 Does slide return when ES is operated
Rep. electronic switch
8 Does set turn off when SO is operated
Rep. power supply
9 ON with 25/30 cm disc
10 Does pickup arm lower at 25/30 cm position
Is C of 1TR12 high at lower position
Is 22.8 V supply ripple normal (160-200 mVpp)
Rep. power supply
Rep. detector arm circuit BL/1TR12
Does low pulse appear at 1C28
Does high appear at C of 1TR23
Rep. pulse generator
Rep. automatic lowering mechanism
Does C of 1TR20 go high
Does slide return
Rep. electronic switch
Rep. magnet coil circuit
Rep. run-off stop or pulse generator
11 Does servo mechanism operate
Rep. photo control
12 Does turntable rotate at 33 r.p.m. throughout tracking operation
1D12
13 Does arm rise, and does transport-out start when pickup enters run-off groove
Rep. run-off stop


14 Does set turn off when SO is operated
Rep. power supply
15 ON with 17-cm disc
16 Does turntable switch to 45 r.p.m. at ,,speed 45"
See item 6
N
J
17 See items 10 - 14
18 Do manual switches 35-45-ON-OFF function?
Rep. switch
19 Depress < or > with pickup arm lowered
20 Does pickup arm rise
Does C of 1D23/1D24 go high
Rep. diode(s)/ switch
21 Does pickup arm travel slowly
Adjust or rep. 1R58/1R59, 1D21/1D22
22 Press ∧ V with pickup arm above a disc
23 Does pickup arm lower
Rep. manual rise/lower circuit
24 Press ∧ V
25 Does pickup arm rise
Rep. electronic switch (stand by)

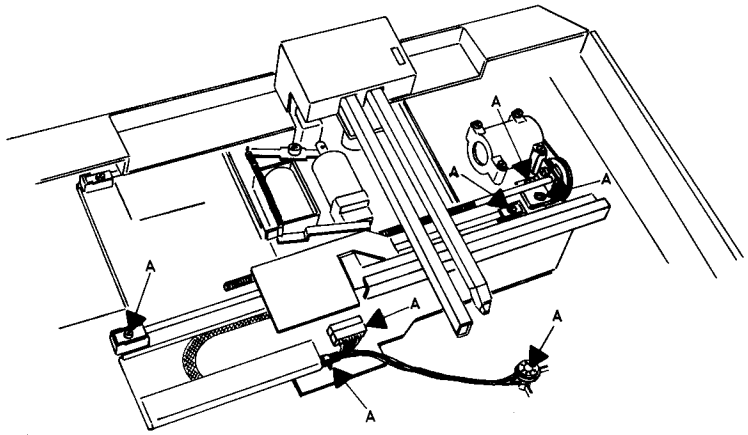
NOTATER/NOTES/NOTIZEN

SERVICE TIPS

Demontering af slæde

Dismounting of slide

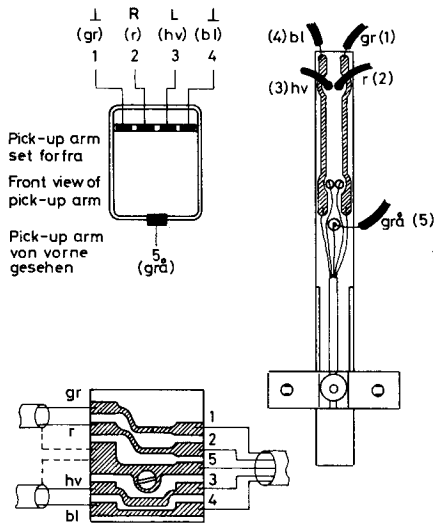
Demontierung vom schlitten



Ledningsmontering i pick-up arm

Mounting of cable in the pick-up arm

Montierung einer Leitung im tonabnehmerarm



NOTATER/NOTES/NOTIZEN